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ABSTRACT

Masculinity (M) and Femininity (F) were related to multiple dimensions of self-concept for responses from 962 high school students. Androgyny theory predicts that F, as well as M, will contribute positively and uniquely to self-concept, but previous research has typically found that the contribution of F is nil or even negative after controlling for the contribution of M. However, in the present research, M scores and F scores each contributed positively and uniquely to the prediction of self-concept. In a few areas of self-concept the contribution of F was actually more positive than the contribution of M, and these tended to be the areas in which females had higher self-concepts than males. Surprisingly, the contribution of M to the prediction of self-concept was somewhat greater for females than for males, while the contribution of F was as large or larger for males as for females. Nevertheless, the relative contribution of M and F to the prediction of self-concept had more to do with the area of self-concept than with the gender of the respondent. The issues of social desirability, the possible bipolarity of MF, and the multidimensionality of both MF and self-concept are discussed. (Author)

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Masculinity, Femininity and Androgyny:

Their Relations to Multiple Dimensions of Self-Concept

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Masculinity (M) and Femininity (F) were related to multiple dimensions of self-concept for responses from 962 high school students. Androgyny theory predicts that F, as well as M, will contribute positively and uniquely to self-concept, but previous research has typically found that the contribution of F is nil or even negative after controlling for the contribution of M. However, in the present research, M scores and F scores each contributed positively and uniquely to the prediction of self-concept. In a few areas of self-concept the contribution of F was actually more positive than the contribution of M, and these tended to be the areas in which females had higher self-concepts than males. Surprisingly, the contribution of M to the prediction of self-concept was somewhat greater for females than for males, while the contribution of F was as large or larger for males as for females. Nevertheless, the relative contribution of M and F to the prediction of self-concept has more to do with the area of self-concept than with the gender of the respondent. The issues of social desirability, the possible bipolarity of MF, and the multidimensionality of both MF and self-concept were discussed.

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Masculinity, Femininity and Androgyny:
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The Androgyny Construct.

Prior to the 1970's personality researchers typically hypothesized masculinity (M) and femininity (F) to be the end-points of a bipolar unidimensional construct, and this is how the construct is represented in many personality inventories (e.g., California Psychological Inventory, Comrey Personality Scales, Guilford-Zimmerman Temperament Scale, MMPI, Omnibus Personality Inventory, Strong Vocational Interest Blank, Terman and Miles Attitude-Interest Analysis Test). At that time there was no serious challenge to the bipolarity assumption and in her classic 1973 review of MF research Constantinople stated that "no measure of M-F has been devised that does not incorporate bipolarity from the start" (p. 392, 1973). The implication of this assumption is that to be more feminine (masculine) a person must necessarily be less masculine (feminine). While such an assumption might have been socially acceptable in the 1960's, it is not acceptable in the 1980's. The social zeitgeist of the Womens Movement and Constantinople's challenge of the bipolarity assumption in MF research combined to spawn the construct of androgyny, and led to a tremendous resurgence of MF research during the past decade.

Constantinople (1973), Bem (1974), Heilbrun (1976), Spence, Helmreich and Stapp (1975), and others have questioned the assumption that M and F represent a bipolar continuum. Constantinople (1973) suggested that the apparent bipolarity in the construct may be a function of the selection and/or construction of items in previous scales. Androgyny researchers argue that it is logically possible for a person of either gender to be both masculine and feminine, and the existence of both in the same person has been labeled androgyny. The key assumptions of Bem's 1974 theoretical description of androgyny are that M and F are orthogonal dimensions, and that individuals high on both are mentally healthier and socially more effective. In a summary of the development of this construct, Baumrind (1982) states that: "As defined by Bem, by Spence, and by their colleagues, androgynes are individuals who, to a greater extent than is customarily the case, profess a self-concept that incorporates attributes considered to be socially desirable in men as well as those considered to be socially desirable in women" (p. 46) and that "androgynes, by comparison to sex-typed individuals, are more effective persons" (p. 44).

Androgyny researchers disagree on precisely how androgyny should be defined and measured, but they all agree that M and F reflect two distinguishable traits and not a bipolar construct. Two forms of support are particularly relevant. First, the correlation between M and F scales must differ significantly from -1.00 in a practical as well as a statistical sense. Bem (1974) argues that the two components are uncorrelated, and research with both the Bem Sex Role Inventory (BSRI) and the Personal Attributes Questionnaire (PAQ) has shown the M and F scales to be somewhat positively correlated (Lee & Scheurer, 1983, Lubinski, Tellegen & Butcher, 1983; Nicholson & Antill, 1981; Helmreich, Spence & Holahan, 1979). Second, it must be demonstrated that both M and F contribute uniquely to the prediction of appropriate criterion measures in a manner that is inconsistent with the bipolarity assumption. The most frequently studied criterion for this second form of support has been measures of self-concept, self-esteem or social well-being, and this is the focus of the present investigation. Consistent with Bem's original formulation, high masculinity and high femininity should each contribute positively and uniquely to the prediction of esteem-like measures for males and for females.

In what may be an alternative perspective to the relation between MF and self-concept, traditional theorists of the socialization process contend that appropriate sex-typing, the acquisition of a masculine identity by males and a feminine identity by females, leads to esteem, social well being, and mental health (see Antill & Cunningham, 1980, for further discussion). For purposes of the present investigation this traditional perspective has been used to formulate the sex-typed hypothesis. This sex-typed hypothesis proposes that: a) for females, F will be more positively correlated to self-concept than will M; b) F will be more positively correlated to self-concept for females than for males; c) for males, M will be more positively correlated to self-concept than will F; and d) M will be more positively correlated to self-concept for males than for females. In the present investigation this hypothesis will be tested as part of the examination the relation between MF scores and self-concept.

Inadequate and inconsistent operational definitions of androgyny have hampered research on the relations between MF measures and other constructs (see Pedhazur & Tetenbaum, 1979, pp. 1013-1014 for further discussion). If M and F are relatively

independent constructs, then it is dubious to collapse the M and F onto a single "androgyny" continuum and considerable variance may be lost when such a definition is used. In particular, the absolute difference between M and F as a measure of androgyny fails to distinguish between individuals who are high-M/high-F, average-M/average-F, and low-M/low-F. Heilbrun (1984) defines androgyny as the sum of M and F scores minus the absolute value of the difference between M and F (i.e., (M + F) - |M - F|). The compromise definition has intuitive appeal and avoids problems with use of just a difference score. However, quite different combinations of M and F can still lead to the same androgyny score, variance may still be lost by collapsing M and F onto a single continuum, and the measure has not been used with sufficient frequency to evaluate it. In recognition of problems inherent in defining androgyny along a single continuum, Bem (e.g., Bem, 1977) developed the median split procedure that is consistent with her hypothesis of separate M and F dimensions. However, considerable variance is also lost through this gross categorization of M and F scores. Furthermore, M and F are completely confounded in comparisons of high-M/high-F (androgynous) individuals with low-M/low-F (undifferentiated) individuals. More recently Bem (1977) and others have advocated the use of multivariate techniques such as multiple regression in which M and F are examined as separate predictors of other constructs, and this will be the emphasis in the present study.

The most widely used instruments to infer androgyny are the BSRI and the PAQ. While their empirical bases and theoretical rationales differ somewhat, the two instruments apparently measure similar constructs; both make inferences about M and F on the basis of socially desirable characteristics, both result in distinguishable M and F scales, and PAQ scores are highly correlated with BSRI scores (Lamke, 1982; Lubinski, Tellegen & Butcher, 1983). However, the reliance only on socially desirable attributes may constitute an important weakness. For example, the "true" correlation between M and F may be distorted by a method effect in responses to the socially desirable items (Baumrind, 1982; Kelly, Caudill & Hathorn, 1977; Kelly & Worrell, 1977; Pedhauzer and Tetenbaum, 1979). According to such a method-effect hypothesis, responses to two sets of socially desirable items will be positively correlated in a way that is independent of the correlation between M and F constructs (see Marsh & Myers, 1984, for further discussion). The operation of such a method-effect is also likely to affect correlations between M and F

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scores and self-esteem measures, since self-esteem is typically inferred by the endorsement of positively valued items and the nonendorsement of negatively valued items. Spence, Helmreich & Holahan (1979), basing their arguments on intuitive and theoretical perspectives, also contend that many M and F characteristics are socially undesirable, but may still have important consequences.

In response to this potential weakness, Spence, Helmreich and Holahan (1979) expanded the original PAQ to include M and F scales defined by socially undesirable characteristics (the new form is called EPAQ), and Antill, Cunningham, Russell and Thompson (1981) developed the Australian Sex-Role Scale (ASRS) to specifically measure M and F with positively valued characteristics (M+ & F+) and with negatively valued characteristics (M- & F-). Consistent with the method-effect proposal, both groups found that the M+/F+ correlation was substantial and positive, while M+/F- and M-/F+ correlations tended to be negative. Marsh and Myers (1984) used confirmatory factor analyses to examine the adequacy of different factor solutions to responses to the ASRS. While a four-factor solution (M+, M-, F+, F-) consistent with the design of the instrument provided a reasonable fit to the data, two-factor solutions did not. Among others they considered an Mtot (M+ & M- items) and Ftot (F+ & F- items) solution, and a Pos (M+ & F+ items) and Neg (M- & F- items) solution. Since it may not be justifiable to collapse the M+, F+, M-, and F- scores into two dimensions, the inclusion of negative items will further complicate operational definitions of the androgyny construct.

Self-esteem, Androgyny, and MF measures.

While measures of androgyny that reflect both high-F and high-M scores are positively correlated with esteem-related measures, most of the predictable variance can be accounted for by the M score alone (e.g., Antill & Cunningham, 1979; 1980; Bem, 1977; Ho & Zemaitis, 1980; Lamke, 1982; Silvern & Ryan, 1979). Antill and Cunningham (1979; 1980) examined relations between two traditional MF instruments, three androgyny instruments, and two self-esteem instruments. Consistent across all instruments and both sexes, M scores were significantly correlated with self-esteem scores, while correlations between F and self-esteem were minimal or slightly negative. Multiple regressions demonstrated that the F scores contributed little to the prediction of self-esteem beyond what could be explained by M scores alone. Various classification

schemes such as the median split indicated that sex-typed masculine subjects of both sexes had higher self-esteem than did androgyns or other groups. On the basis of this research, support for the unique positive contribution of femininity to the prediction of esteem-like measures which plays a central role in Bem's androgyny theory is weak. It is also interesting to note that the failure of F to contribute substantially to esteem like measures for females also contradicts the sex-typed hypothesis that was described earlier.

The inclusion of four MF scales, instead of just two, further complicates the study of relations between MF and self-concept. However, two studies with the ASRS (Russell & Antill, 1984; Marsh & Myers, 1984) and one with the EPAQ (Spence, et al., 1979) provide reasonably consistent results across sexes, across MF measures, and across self-esteem measures. Correlations between self-esteem and the four MF scales were high-to-moderate-positive for M+, low-positive or zero for F+, near-zero for M-, and low-to-moderate-negative for F-. In a multiple regression based on all four scales, Marsh and Myers found that only two scales contributed significantly to the prediction of self-esteem; M+ (positively) and F- (negatively). They suggested that the self-endorsing masculine and positive items is positively correlated with self-esteem, while self-endorsing feminine and negative items is negatively correlated with self-esteem. Consistent with earlier research, studies that include socially undesirable characteristic again provide little or no support for the unique positive contribution of femininity to the prediction of esteem-like measures.

Most research relating MF measures to self-concept has relied on ill-defined, global measures of self-concept. Here, as is typical in research employing self-concept instruments, the focus was not on self-concept and interest in self-concept came from its assumed relevance to the construct that is of central interest to the researcher. Reviews of self-concept research (e.g., Burns, 1979; Shavelson, Hubbard & Stanton, 1976; Welles & Marwell, Wylie, 1974; 1979) have emphasized the poor quality of instruments used in most research. More recently theoretical and empirical research into the measurement of self-concept have demonstrated its multifaceted nature (Harter, 1981; Marsh, Barnes & Hocevar, in press; Marsh, Smith, Barnes & Butler, 1983; Shavelson, et al., 1976; Shavelson & Marsh, in press; Soares & Soares, 1982). In a review of the multifaceted nature of self-concept, Marsh & Shavelson (1984; also see Shavelson & Marsh, in press) concluded that self-concepts in specific

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areas will be more positively correlated with external criteria than will broad measures of general self-concept, and that the relation between self-concept and other constructs cannot be adequately understood if the multidimensionality of self-concept is ignored.

The multifaceted nature of self-concept is particularly important to understanding relations between MF and self-concept. While sex differences in overall or general self-concept are small, perhaps favoring males, this represents an average across some specific areas favoring males and some favoring females (Marsh, 1984a; Marsh, Barnes, Cairns & Tidman, in press; Marsh, Parker & Barnes, in press). While androgyny researchers have not considered the multidimensionality of self-concept, they have examined socially desirable activities in which women might be expected to excel (e.g., Bem, 1975, 1977; Helmreich, Spence & Holahan, 1979) on the assumption the F scores will contribute substantially to scores representing these areas. Consistent with this approach, sex differences in specific areas of self-concept may be related to the pattern of correlations found between these specific self-concepts and the MF scores. Specifically, the positive and unique contribution of F to self-concept which androgyny researchers have been unable to find in general self-concept will be more likely in those specific areas of self-concept where females have higher self-concepts than males.

The Present Investigation.

The purpose of the present investigation is to examine the relations between the 4 scales from the ASRS and 11 areas of self-concept measured by the Self Description Questionnaire (SDQ) II for a large sample of high school students. Correlations based on various combinations of the 4 ASRS scales, some defined in an a priori manner and some defined empirically with multiple regression, are examined. The following set of predictions is based on the literature review just presented and will be the basis of subsequent analyses.

1) Averaged across all area of self-concept M+ and F+ will be positively and significantly correlated with self-concept; M+ and F+ will each contribute uniquely and positively to the prediction of self-concept, and the relative size of the contribution will vary with the specific area of self-concept.

2) Averaged across all areas of self-concept M- and F- will be negatively and significantly correlated with self-concept; particularly F- will contribute uniquely and negatively to the prediction of self-concept.

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3) The sex-typed hypothesis described earlier will not be supported. Though there is little relevant research, it is suggested that the pattern of relations between the M+, M-, F+, and F- scores and the self-concept scores will be reasonably similar for males and females.

4) The relative size of the positive contribution of Mtot [(M+) + (M-)] and Ftot [(F+) + (F-)] to self-concept will vary according to the particular area of self-concept; Ftot, compared to Mtot, will contribute more positively to areas of self-concept in which females have higher self-concepts than males, and less positively in areas where males have higher self-concepts than females.

5) Averaged across all areas of self-concept an unweighted bipolar MF score [(M+) + (M-) - (F+) - (F-)] will be only modestly correlated with multiple self-concepts, and will be substantially less correlated with multiple self-concepts than will an empirically derived combination of the four ASRS scores. Furthermore, not even the direction of this correlation will be consistent across all areas of self-concept (this follows from prediction 4).

6) An unweighted bipolar Positive-Negative (PN) score [(M+) + (F+) - (M-) - (F-)] will be substantially and positively correlated with multiple areas of self-concept -- more positively correlated than will the bipolar MF score, but still substantially less correlated with multiple areas of self-concept than will an empirically derived combination of the four ASRS scores.

7) An unweighted sum of the bipolar MF score proposed in prediction 5 and the bipolar PN score proposed in prediction 6 will be substantially and positively correlated with multiple areas of self-concept; the correlation will be larger than for either bipolar score considered separately and only modestly less than will an empirically derived combination of the four ASRS scores.

Method.

Sample and Procedures.

The sample consists of 962 (49% female) high-school students (grades 7 - 11) who completed the ASRS and the SDQ II as part of a larger on-going project. One year prior to this data collection the two high schools considered in the study had been single-sex schools serving the same predominantly middle class suburb of metropolitan Sydney, Australia. During the academic year in which this data were collected grades 7, 9 and 11 were integrated so that these classes in both schools were coeducational, while students in grades 8 and 10 still attended single-sex classes in their original high schools.

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The purpose of the on-going longitudinal study is to examine the impact of the change from single-sex to coeducational classes, but this broader question is not the focus of the present investigation which emphasizes instead the relations between MF measures and multiple self-concepts. Nevertheless, this situation may affect MF scores or their relation to self-concept in a way that would hinder the generalizability of the findings. Consequently, variables related to this change were examined to determine their effect, if any, on MF/self-concept relations.

The two self-report instruments were administered to large groups of students in the two high schools on consecutive days near the end of the academic year by three researchers not otherwise connected with the schools. At each school the groups consisted of all the students in the same year group. For both self-report instruments instructions were read aloud, several practice items were administered, questions were answered, and then items were read aloud at a fairly rapid pace (though students had a copy of the instrument in front of them so that they could read along if they chose to do so). The primary purpose of reading the items aloud was to ensure that students spent an appropriate amount of time on each item of both instruments and still finished within the 40 minutes allowed for the task.

Instruments.

ASRS. As part of the study, all students completed form A of the ASRS (Antill, et al., 1981). The ASRS consists of 50 personality-like characteristics (e.g., logical, anxious, loves children) and subjects respond to each item according to how true it is as a self-description on a "1-Never or almost never true" to "7-Always or almost always true" scale. The items are classified as M (20 items), F (20 items), or neutral (10 items) with half the items within each group being positively valued (i.e., socially desirable) and half negatively valued. For purposes of the present investigation only the 40 MF items from the ASRS are considered. The four ASRS scores, M+, M-, F+, F-, each represent the unweighted sum of responses to ten items as suggested by Antill et al., though additional scores were derived from the original four as part of the analysis.

SDQ II. The SDQ II is one of a series of self-concept instruments designed to measure self-concepts of primary school students (SDQ), high school students (SDQ II), and university students (SDQ III). The SDQ instruments are based upon the

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Shavelson model of self-concept (Shavelson, et al., 1976; Shavelson & Marsh, in press) and the multiple dimensions of self-concept proposed in that model. Numerous exploratory and confirmatory factor analyses of responses to the SDQ instruments have identified the factors that each is designed to measure and support the multidimensionality of self-concept (e.g., Marsh & O'Niell, 1984; Marsh, Parker & Barnes, in press; Marsh, Relich & Smith, 1983; Marsh, Richards & Barnes, 1984; Marsh, Smith & Barnes, 1983; Marsh, Smith & Barnes, in press; Shavelson & Marsh, in press). Other research with the SDQ instruments has shown that: a) the reliability of each factor is generally in the 0.80's and 0.90's while correlations among the factors are modest (median r's generally 0.20 or less); b) the self-concept factors are substantially correlated with self-concepts in matching areas as inferred by teachers and significant others (Marsh, Barnes & Hocevar, in press; Marsh & O'Niell, in press; Marsh, Smith & Barnes, 1983; in press; Marsh, Smith, Barnes & Butler, 1983); and, c) the self-concepts in academic areas are substantially correlated with academic achievement indicators while nonacademic self-concepts are not (Marsh, 1984b; Marsh, Parker & Barnes, in press; Marsh & O'Niell, in press; Marsh, Parker & Smith, 1983; Marsh, Smith, Barnes & Butler, 1983). These findings support the validity of interpretations based upon the SDQ instruments.

The SDQ II, containing many items in common with SDQ and the SDQ III as well as some unique items, is designed to measure 11 areas of self-concept: Mathematics, Verbal, General-School, Physical Abilities, Physical Appearance, Opposite Sex Relations, Same Sex Relations, Parent Relations, Honesty/Trustworthiness, Emotional Stability, and General-Self (see Marsh, Parker & Barnes, in press, for a more complete description). Students respond to statements, approximately half of which are negatively worded, on a "1-False" to "6-True" response scale. Scores representing the 11 factors are derived from factor analyses of responses to 122 items as described by Marsh, Parker & Barnes (in press). In that study factor analysis identified the 11 factors that the instrument was designed to measure, the reliabilities were high (median alpha = 0.86), correlations among the 11 factors were modest (median r = .17), and school performance in math and English classes were substantially correlated with Math and Verbal self-concepts.

Statistical Analyses.

All statistical analyses in this study were conducted with the

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commercially available SPSS program (Hull & Nie, 1981; Nie, et al., 1975). Preliminary analyses were conducted to examine psychometric properties of responses to both instruments. For the SDQ II (see Marsh, Parker & Barnes for a more complete description of the analyses and similar findings for a different sample): a) a factor analysis identified the 11 SDQ II factors and was used to derive factor scores to represent the different areas of self-concept; b) an item analysis showed the factors to be reliable (alphas from 0.84 to 0.92; median alpha = 0.89); and c) correlations among the factors were modest (median r = 0.20). For the ASRS (see Table 1 of the results section): a) an item analysis showed the alphas for the four ASRS scales to be 0.67 (M+), 0.78 (M-), 0.75 (F+), and 0.67 (F-); b) alphas were similar for responses by males and females; and c) correlations among the ASRS scores and gender differences in the scores are presented in Table 1 of the Results section.

For both instruments, mean responses were substituted for missing values for all completed questionnaires. Despite the structured administration of the instruments, 57 students (6%) failed to complete at least one of the instruments, and they were given missing values all for scores summarizing the uncompleted instrument. In correlations based upon these scores, a pair-wise deletion of missing values was used, though correlations based on a case-wise deletion of missing values was nearly identical (see Nie, et al., 1975 for descriptions of these options in handling missing data).

For each set of analyses described below, separate analyses were performed on responses by males, by females, and by the total sample. In the first set of analyses the four ASRS scales and a variety of scores derived from these scales were correlated with each other, with background/demographic variables, and with the 11 SDQ II factors. In the second set of analyses multiple regression was used to predict each self-concept score from the four ASRS scores or from a variety of scores derived from the original four scales. The size and direction of first-order correlations, and of standardized beta weights from the multiple regressions, were used to examine the contributions of various MF scores to the prediction of the multiple self-concepts.

As described earlier, there was a concern that unique characteristics of this sample may influence the findings and hinder the generalizability of the results. In order to examine this possibility, additional variables were defined to represent the

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school (a dichotomous variable scored 1 or 2), student gender (1=male, 2=female), linear and nonlinear components of age (i.e., age, age squared, and age cubed) where age was summarized according to the grade level, and the type of classes (1 = single sex, 2 = coeducational) that each student attended. Each of these background variables was correlated with the four ASRS scores for the total sample, and separately for males and females (except for gender). As reported in Table 1 of the results section, all correlations other than those involving gender were trivial; the largest of the 36 correlations was 0.16, few were statistically significant, and most fell in the range of +0.05 to -0.05. As a further test, these additional variables were included in multiple regressions predicting each of the 11 self-concepts on the basis of the 4 ASRS scales. While in some instances the inclusion of these additional variables resulted in a significantly, albeit small, increase in multiple Rs, the size of the standardized beta weights for the 4 ASRS scores were nearly unaffected. Consequently, while characteristics particular to the present investigation study dictates caution in generalizing the findings, these characteristics apparently have little affect on the MF scores and their relations to self-concept.

Results

The Four ASRS Scores and Their Relation to Multiple Self-concepts.

Correlations among the four ASRS scores (see Table 1) generally varied from close to zero to moderately positive. Moderately positive correlations occurred between the two M scores (M+ & M-) and between the two positive scores (M+ & F+), while correlations between the two F scores and the two negative scores were generally positive but smaller in size. The correlation between the Mtot and Ftot was also small and positive, and argues against the bipolarity of M and F as measured by the ASRS. Sex differences in the four ASRS scores were small (See Table 1). While each of the correlations is statistically significant and in the predicted direction, only the correlation between gender and F+ ($r = 0.29$) is greater than 0.2. Correlations between the MF scores and other demographic variables in Table 1 were small and generally nonsignificant.

Insert Table 1 About Here

Correlations between the four ASRS scores and the 11 self-concept scores are presented separately for males, for females, and for the total sample (see Table 2). Averaged across all areas of self concept (the Mean of Coefficients in Table 2), correlations were modestly positive for the M+ and F+ scores, smaller and

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negative for the F- score, and close to zero or slightly negative for the M- score. This general pattern of results occurred for males, females and the total sample.

Insert Table 2 About Here

A series of multiple regressions was used to relate each self-concept score to the four ASRS scores; the standardized beta weights and multiple Rs appear in Table 2. For the total sample the multiple Rs varied from 0.22 to 0.58 (mean = 0.41). Three areas of self-concept, Emotional Stability, Honesty/Trustworthiness, and General-Self, had multiple Rs of about 0.55 and were more strongly related to the four ASRS scores than were the other self-concepts. On the average, self-concepts were slightly more predictable in the female sample (mean mult R = 0.44) than the male sample (mean mult R = 0.40), but the differences were not large.

Two indicators of the importance of each ASRS score in the prediction of the multiple self-concepts are the size of the zero-order correlations and size of the beta weights; correlations summarize the size of each relation without regard for the other ASRS scores, and the beta weights represent the unique contribution of each of ASRS score when all four scores are considered. The sign of each correlation was nearly always the same as that of the corresponding beta weight, and the size of the each correlation, though somewhat smaller, was also similar to that of the corresponding beta weight. Based upon the total sample, 35 of the 44 correlations (i.e., 4 ASRS scores x 11 SDQ II scores), and 36 of the 44 beta weights, reached statistical significance. Also, it is interesting to note that each of the four ASRS scores had the largest correlation and the largest beta weight for at least one of the self-concept scores. Hence, the two indicators of the importance of each ASRS score in the prediction of multiple self-concepts are in general agreement, and demonstrate that all four ASRS scores are important in the prediction of self-concept.

The results in Table 2 are particularly relevant for testing predictions 1, 2 and 3 described earlier. These are discussed below.

Prediction 1. Prediction 1 hypothesized that relations between the self-concepts and the M+ and F+ scores would be positive; for the total sample 21 of 22 rs and 18 of 22 betas were significant, and all were in the positive direction. Prediction 1 further hypothesized that relative size of the M+ and F+ relations would vary with the area of self-concept. While M+ was generally more

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positively related to the 11 self-concepts than was F+, F+ was more positively related to three of the areas of self-concept; Same Sex Relations, Parent Relations, and Honesty/Trustworthiness. These findings provide strong support for the first prediction and are particularly important since they demonstrate that socially desirable feminine characteristics, as well as socially desirable masculine characteristics, contribute positively and uniquely to the prediction of multiple area of self-concepts.

Prediction 2. Prediction 2 hypothesized that M-, and particularly F-, would be negatively related to self-concept. For F-, 9 of 11 correlations and 8 of 11 betas were significant, and all were negative. For the M-, 5 of 11 correlations and 10 of 11 betas were significant, but rs and betas relating M- to Physical Appearance and Opposite Sex Relations were positive. For these two self-concepts, the M- score contributed positively even though it was comprised of socially undesirable items. Thus, while there is support for prediction 2, there were also some interesting exceptions.

Prediction 3. Prediction 3 proposed that the sex-typed hypothesis described earlier would not be supported. Inspection of the mean of correlations (Table 2) for the male and female samples clearly refutes two parts of the sex-typed hypothesis in that: a) for females, M+ compared to F+, and M- compared to F-, were more -- not less -- positively correlated with self-concept; and, b) M+ and M- are slightly more -- not less -- positively correlated with self-concept in the female sample than the male sample (though the differences are small, the direction is opposite to that predicted by the sex-typed proposal). A third part of the proposal is not supported in that F+ and F- are as positively correlated to the self-concepts in the male sample as the female sample (0.22 & -0.18 vs. 0.22 & -0.17; see Table 2). The final part of the sex-typed hypothesis was only modestly supported in that, for males, M+ and M- were slightly more positively correlated with the self-concepts than were F+ and F- (0.26 & -0.11 vs. 0.22 & -0.15). Similar conclusions come from an inspection of correlations between the self-concepts and the Mtot and Ftot scores that appear in Table 3. In summary, these findings clearly refute the sex-typed hypothesis.

The Relative Contribution of M and F To Different Areas of Self-concept: A Test Of Prediction 4.

Socially desirable feminine characteristics, as well as socially desirable masculine characteristics, contribute positively to the prediction of self-concept (see discussion of prediction 1).

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In three areas -- Honesty/Trustworthiness, Parent Relations, and Same Sex Relations -- the self-concept scores are more positively correlated to F+ than to M+. This finding is important because most research has found that the contribution of F scores, after taking into account the M scores, is nil or even negative, and no research known to the authors has found the positive contribution of F scores to be larger than that of M scores. Furthermore, as hypothesized in prediction 4, two of these areas of self-concept are the ones in which girls have substantially higher self-concepts than do boys (see footnote 1). Similarly, the three areas where boys have substantially higher self-concepts than girls are Physical Appearance, Physical Ability, and Mathematics, and these self-concept scores are more positively correlated with M+ than with F+.

The influence of social desirability on the ASRS scores, particularly the M- and F- scores for which most correlations with self-concept are negative, complicates tests of prediction 4. However, the size and direction of the correlations between a bipolar MF score ((M+) + (M-) - (F+) - (F-) or Mtot - Ftot; see Table 3) and each area of self-concept gives a clear indication of the relative contribution of M and F scores to the prediction of that self-concept score. The M+ and M- scores are weighted +1 and the F+ and F- scores are weighted -1 in the computation of this bipolar score. Thus, if the correlation between the bipolar MF score and a self-concept score is positive, then M scores contribute more positively (or at least less negatively) than do F scores; if the correlation is negative, then the positive contribution of the F scores is larger; if the correlation does not differ significantly from zero, then the relative positive contribution of M and F scores is about the same. In order to test prediction 4, the bipolar MF score was correlated with the self-concept scores. Similarly, correlations between gender (1=male, 2=female; see footnote 1) and each area of self-concept provide an index of the extent to which males and females differ in that area of self-concept. The relation between the two sets of correlations, the set of correlations between the bipolar MF score and the self-concept scores and the set of correlations between gender and the self-concept scores, provides a direct test of prediction 4.

Six correlations between the bipolar MF score the 11 SDQ II scores were significantly positive -- indicating a larger positive contribution for M than for F, two were significantly negative, and

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three did not differ significantly from zero (see Table 3). The correlation between this set of correlations and the correlations with gender was -0.71 ($df = 9$, $p < .03$). Thus, the areas of self-concept most favoring girls (i.e., those where correlations with gender are most positive) are the ones in which the positive contribution of F is larger than M (i.e., correlations with bipolar MF are most negative). These findings provide quantitative substantiation for conclusions based upon the inspection of correlations between self-concepts and M+ and F+ scores presented at the beginning of this section, and provide strong support for prediction 4.

A Priori Combinations of MF Scores and Their Relation to Self-Concepts.

The purpose of results to be described in this section is to determine how well various unweighted combinations of the four ASRS scores (i.e., each score is weighted +1 or -1) are able to account for variance in the multiple self-concepts. The multiple regressions in which weights for each of the four ASRS scores are empirically determined (Table 2) automatically produces weighted averages of the scores that are more highly correlated with the self-concepts than is any other possible linear combination of the four scores. Across the 11 areas of self-concept, the average of the multiple R squared values is 0.181 (Table 2); 18.1% of the variance in self-concept scores is explained by the four ASRS scores. While no a priori linear weighting of the four scores can do any better than this optimum, one that approaches it would be strongly supported. Three such combinations are proposed in predictions 5, 6 and 7, and the generalized androgyny score proposed by Heilbrun (1984) is an additional possibility.

Insert Table 3 About Here

Before examining how well theoretically derived combinations of the four ASRS scores were able to explain the variance in the self-concept scores, it is informative to determine how various pairs of the ASRS scales did (see Table 3). Averaged across the 11 self-concepts, the Mtot and Ftot scores were only able to explain 3.8% and 1.6% of the variance, while the Neg [(M-) + (F-)] explained 3.7%. Of the four pairs considered, only the Pos [(M+) + (F+)] was able to explain an appreciable portion of the variance (8.6%), though this value is much less than the optimum of 19.1%. The substantially better performance by Pos than by Neg is somewhat surprising since approximately half the items on the SDQ II are negatively worded. Since the number of M and F items are equal in

the the Pos and Neg scores, these findings indicate that much of the variance in self-concepts that could be explained by responses to MF items was attributable to the social desirability of the items rather than to their masculinity or femininity.

An Unweighted Bipolar MF: A Test of Prediction 5. Prediction 5 hypothesized that the bipolar MF would be only modestly correlated to self-concepts. As already discussed in relation to prediction 4, some of these correlations are negative, indicating a larger positive contribution of the F scores than the M scores, while the average correlation is slightly positive (0.063). The average of r squared values is not complicated by the direction of the relation, but even this value (3.6%) is modest and is much smaller then the 18.1% optimum. In fact, three of the four pairs of ASRS scores considered earlier (Mtot, Pos, Neg) did as well or better than the bipolar MF score that was based on all four ASRS scores. These results provide support for prediction 5 and for the inability of the bipolar MF to adequately account for relations between responses to MF and self-concept responses.

An Unweighted Bipolar PN Score: A Test of Prediction 6. Marsh and Myers (1984) argued that individuals who self-endorse socially desirable M and F traits, and who do not self-endorse socially undesirable M and F traits, are likely to have higher self-concepts and this was the basis of prediction 5. According to this proposal, the social desirability of the MF items, independent of whether they are M or F, will substantially influence their relation to self-concept. Consistent with the prediction, this unweighted bipolar PN score was significantly and positively correlated with every self-concept score, and it explained 11.9% of the variance in the self-concept scores. This value, though only about two-thirds of the optimum, is substantial, and larger than those for either the Pos or Neg scores considered separately. This finding, and the consistent pattern of correlations between the self-concepts and the Pos and the Neg scores, suggests that the unweighted bipolar PN is reasonably effective at explaining variance attributable to the Pos and Neg scores. However, the finding that the Pos score accounted for more variance than did the Neg score suggests that an empirically derived weighting of the two might do even better. The results provide clear support for prediction 6.

A Sum of Bipolar MF and Bipolar PN Scores: A Test of Prediction 7. Marsh & Myers (1984) suggested that self-endorsing masculine and

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positive items is positively correlated with self-concept, while self-endorsing feminine and negative items is negatively correlated with self-concept. This implies that the unweighted sum of bipolar MF and bipolar PN scores considered above will be substantially correlated with self-concept, and formed the basis of prediction 7. While this unweighted sum is substantially correlated with self-concept, explaining 10.1% of the variance in these scores, this value is smaller than that obtained by the bipolar PN score by itself. Thus, the addition of the bipolar MF scores actually detracts from the ability of the bipolar PN score to predict self-concept, and prediction 7 must be rejected. An examination of the the correlations between the bipolar MF and the self-concepts provides one reason for the failure of this prediction. Contrary to the suggestion by Marsh and Myers, in the present study M scores did not always contribute more positively to self-concept than did F scores. Particularly for the Honesty/Trustworthiness and Parent Relations self-concepts, a -1 weighting for the bipolar MF score would probably do better than the +1 weighting assumed in the definition of this score. Again, an empirically derived weighting for these two scores would probably do much better than this unweighted sum. Nevertheless, the findings demonstrate that prediction 7 must be rejected.

The A Priori Generalized Androgyny Score. Heilbrun (1984) described a generalized androgyny score in which the absolute difference between Mtot and Ftot scores is subtracted from the sum of Mtot and Ftot scores. Thus individuals with similar M and F scores, and persons with high M and F scores, will tend to be assigned higher androgyny scores. The use of the absolute value means that this a priori score is not strictly a linear combination of the four ASRS scores, but it is still informative to compare its ability to predict the self-concepts with the other MF scores considered in this study. However, the correlations between it the self-concepts are modest, and it is able to explain only 2.1% of the variance in the self-concept scores. It is interesting to note that when the generalized androgyny score was defined on the basis of just the M+ and F+ scores (not shown), it was able to explain 8.5% of the variance. While this represents a substantial improvement over the 2.1% found here, it is virtually the same as the Pos score alone (8.6%; Table 3). This suggests that the improvement is due primarily to the social desirability of the positive items, and that the absolute difference between M+ and F+ contributes little to Pos (i.e, the sum M+ and F+). Though no specific predictions were made

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about this score, the results provide little support for the ability of the generalized androgyny score to adequately describe the relations between MF and self-concept scores.

Empirically Weighted A Priori Combinations of MF Scores and Their Relation to Self-Concepts.

In the last section, Mtot, Ftot, Pos, and Neg were correlated with self-concepts, as were various a priori, unweighted combinations of these scores. While some of these scores were able to explain substantial portions of the self-concept variance, each performed substantially poorer than the 18.1% optimum. Particularly for the two bipolar scores, and their sum, it appeared that an empirical weighting of the two components comprising each of these scores would perform better, and the purpose of analyses described here is to examine this possibility. The 18.1% optimum, dervied from fitting weights to the four ASRS scores in order to estimate each self-concept score, still provides an upper limit to results based on estimating only two or three weights (i.e., weights for two or three scores that are derived from the four ASRS scores in some a priori manner). Thus, for example, if the Pos and Neg scores are empirically weighted in order to estimate each self-concept score, then the variance explained will fall somewhere between the 11.9% obtained by the unweighted bipolar score and the 18.1% optimum. Whether or not it is still reasonable to characterize the empirically weighted score as bipolar will depend on the size, and particularly the sign of the derived weights.

The empirically weighted score representing Mtot and Ftot (Table 4) does modestly better than its bipolar counterpart (4.5% vs. 3.6%). However, the interpretation of the empirically defined variable as bipolar is dubious. Beta weights for Mtot and Ftot (Table 5) are sometimes positive and sometimes negative; the two beta weights for the same self-concept score sometimes have the same sign and sometimes the opposite sign. (The pattern of beta weights is similar to the pattern of zero-order correlations for these two variables as described earlier and shown in Table 3). Hence, it seems inadvisable to characterize the effect of MF on self-concept as bipolar, and the suggestion that the effect is bipolar such that M scores contribute positively and F scores contribute negatively is clearly rejected.

Insert Table 4 & 5 About Here

The empirically weighted score representing Pos and Neg (Table 4) performs marginally better than its bipolar counterpart (13.8%

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vs. 11.9%). An inspection of the beta weights (Table 5) provides clear support for the bipolarity of the empirically defined variable. In every instance the beta weight for Pos is statistically significant and positive (mean beta = 0.309), while the beta weight for Neg is negative and usually statistically significant (mean beta = -0.193). While the empirically derived weights suggest that the Pos component is somewhat more important than the Neg component, it seems to be reasonable to characterize their effect on self-concept as bipolar; the unweighted bipolar score accounts for most of the variance in self-concepts that is explicable by its empirically weighted counterpart (11.9/13.8 = 86%).

The empirically weighted score representing the bipolar MF and the bipolar PN performs substantially better than its unweighted counterpart (15.6% vs. 10.1%). A major problem with the unweighted sum of the two bipolar scores was in the assumption that a positive weight should be assigned to the bipolar MF score (i.e., that M necessarily contributes more positively to self-concept than does F). As observed with the zero-order correlations between the bipolar MF and self-concepts, the sign of the empirically derived weights is sometimes negative. The viability of the bipolarity of MF assumed in this score was further examined in an additional set of multiple regressions in which Mtot, Ftot and bipolar PN were used to predict each self-concept; weights for the Mtot and Ftot are estimated independently, rather than assuming a bipolarity. The results of this new analysis represent a moderate improvement over the two empirically weighted bipolar scores (17.5% vs. 15.6%). Furthermore, this result is sufficiently close to the 18.1% optimum to indicate that it is able to account for nearly all of the variance in self-concepts that is related to responses to the MF items. Again, the inspection of the beta weights for Mtot and Ftot (see Table 5) fails to consistently support their bipolarity; for a few self-concepts there is clear support (opposite signs of roughly equal value), but for others there is not (i.e., beta weights of the same sign).

Heilbrun's generalized androgyny score is also composed of the unweighted sum of two components; the sum of Mtot and Ftot, and the absolute difference between Mtot and Ftot. Multiple regression was used to empirically estimate the weights for these two components (Table 4), but the empirically defined score did little better than its unweighted a prior counterpart (2.5% vs. 2.1%). Even when the bipolar PN score was included in the multiple regression, the three components (13.5%) did little better than the bipolar PN by itself

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(11.9%). These results again fail to support the ability of the generalized androgyny score to explain relations between MF and self-concept responses.

In summary, this last set of analyses demonstrates that the relations between responses to MF and self-concepts can be explained in terms of three scores derived from the ASRS scores; the bipolar PN, Mtot, and Ftot scores. The largest contribution is made by the bipolar PN and reflects the social desirability of each MF item independent of whether it is masculine or feminine. While the contribution of Mtot tends to be larger than that of Ftot, the pattern of relations between these two scores and the self-concepts varies considerably depending upon the area of self-concept. The beta weights for Mtot and Ftot cannot be easily summarized and vary depending on the area of self-concept; each is sometimes positive and sometimes negative; sometimes both have the same sign and sometimes their sign is opposite; sometimes Mtot contributes more positively and sometimes Ftot contributes more positively.

Summary and Implications

The Contribution of M and F to the Prediction of Self-concept.

The purpose of this study was to examine relations between responses to MF (ASRS) and multidimensional self-concept (SDQ II) instruments. Socially desirable M and F scores each contributed positively and uniquely to the prediction of self-concepts, and their relative contribution varied predictably with the area of self-concept. The contribution of the M- and F- scores to the prediction of self-concept tended to be negative, and also varied with the area of self-concept. Across all four ASRS scores, F scores contributed more positively to the prediction of self-concept than did M scores in two areas, M scores contributed more positively in six areas, and the two did not differ in three areas. The contribution of F was more positive than M in the areas of self-concept where females had higher self-concepts, and the positive contribution of M was greater in those areas where males have higher self-concepts. In the light of the inability of previous research to demonstrate that F makes any positive contribution to the prediction of self-concept beyond that which can be explained in terms of M scores, let alone contributes more positively than do M scores in predictable areas of self-concept, the positive and unique contribution of F scores to the prediction of self-concept may be the most important finding of this study.

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M contributed somewhat more positively to the prediction of self-concept for females than for males, and F contributed as positively or more positively for males. This clearly refutes a sex-typed hypothesis that the "appropriate" sex role, masculinity in males and femininity in females, will contribute more positively to self-concept. Nevertheless, the general pattern of relations between MF scores and self-concepts was typically similar for males and females. The relative contribution of M and F to the prediction of self-concept depended more on the particular area of self-concept than on the gender of the respondent.

The bipolarity of M and F failed to receive support from either of two tests of the assumption. First, the correlation between the Mtot and Ftot scores ($r = 0.11$) was close to zero rather than an r approaching -1.0 as assumed in a bipolarity hypothesis. Second, the relations between the M and F scores and the self-concept scores varied dramatically with the area of self-concept. For Mtot and Ftot: a) the direction of each effect was positive for some areas of self-concept, negative for some, and close to zero for others; b) the direction of the contributions of Mtot and Ftot to the same area of self-concept was sometimes the same and sometimes the opposite. In particular, the suggestion that M contributes positively to each area of self-concept, while F contributes negatively, was clearly refuted.

The influence of Social Desirability.

The social desirability of MF items, independent of whether they were M or F, was the primary determinant of the relation between responses to the MF and the self-concept instruments. About two-thirds of the variance in common between MF and self-concept responses could be explained by the social desirability of the MF items. Self-endorsing MF items selected to be socially desirable was positively correlated with self-concept, while self-endorsing MF items selected to be socially undesirable was negatively correlated with self-concept. This finding should not be interpreted as a bias or invalidity in the responses to either instrument; social desirability was one basis for selecting the MF items for the ASRS, while self-endorsing socially desirable items must the basis of inferring a positive self-concept as measured with self-reports. Indeed, if such a logical pattern did not exist, then the validity of the instruments would be suspect.

The recognition of social desirability as an important determinant of the MF responses and their relation to self-concept responses has important implications that, perhaps, have not been

fully recognized. First, the observed relation between M and F scores will vary substantially depending upon the social desirability of the M and F items, independent of the "real" correlation between the underlying M and F constructs. Marsh and Myers (1984) demonstrated that the correlation between M and F will vary predictably from quite positive, to approximately zero, to quite negative depending upon how MF items are selected. Second, the apparent size of the relation between M and F constructs and esteem-like indicators may be substantially inflated by social desirability -- particularly if M and F are inferred from responses to socially desirable items alone. Third, if M and F items are not balanced in terms of social desirability, then this imbalance may seriously distort the relative contribution of M and F scores to the prediction of esteem-related variables and other constructs.

The BSRI and PAC were specifically constructed to include M and F items that were exclusively, or at least primarily, socially desirable, and this automatically means that their M and F scores are substantially influenced by social desirability. The EPAC and ASRS, recognizing this as a potential problem, contain M and F items that were specifically selected to be socially desirable, and others selected to be socially undesirable. Thus, the social desirability influence may be controlled in the Mtot and Ftot scores -- assuming that the social desirability of the various scales is balanced and that social desirability based on normative estimates is reasonably appropriate to each individual. Nevertheless, one must ponder the logic of selecting items in such a way so as to maximize, rather than to minimize, the influence of an extraneous variable. Perhaps it would be wiser to select M and F items that were not so extreme in terms of social desirability, though it would still be important to ensure that scales were balanced in terms of this extraneous variable. With this alternative strategy of instrument construction the distribution of social desirability values for M and for F items would still be symetric about zero, or the neutral-point, but the shape of the distribution would be normal instead of bimodal.

The Multidimensionality of Self-concept, M and F.

Historically, self-concept has been assumed to be a unidimensional construct that was measured by a hodge-podge of items selected in terms of their social desirablity or social undesirablity. More recently theoretical and empirical research has emphasized the multidimensionality of self-concept, the facets that

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comprise self-concept, and their structure. Marsh and Shavelson (1984; also see Shavelson & Marsh, in press) argued that the relationship between self-concept and other constructs cannot be adequately understood if this multidimensionality is ignored, as when researchers rely upon a single, ill-defined score to infer self-concept. Previous study of the relation between self-concept and MF have typically ignored the multidimensionality of self-concept. The logical pattern of relations between the MF and self-concepts found in the present investigation, as well as the support of many of the predictions described earlier, are due in part to the use of a self-concept instrument that clearly differentiates among multiple areas of self-concept that are derived from a carefully developed theoretical model.

Historically, MF was hypothesized to be a single bipolar construct. Starting with Constantinople's challenge of the bipolarity assumption, researchers have constructed instruments that infer separate M and F constructs. Constantinople also argued M and F are each multifaceted rather than unidimensional constructs, but this proposal has apparently had less influence on the construction of instruments used to assess M and F. Marsh and Myers (1984) proposed a model in which M and F are each global, hierarchical constructs defined by more specific components of M and of F. They argued that this multifaceted, hierarchical perspective of global M and global F is consistent with the conceptualizations of Bem, Spence, and other androgyny researchers, and also empirical findings that show responses to M and F scales to be multidimensional, even though it is not reflected in the design of PAQ, EPAQ, BSRI, ASRS, and other instruments used in androgyny research. As has been demonstrated in self-concept research, it seems that the relations between MF and other constructs can be better understood if the multidimensionality of M and F are not ignored. While rational thinking and a competitive/assertive nature may both be facets of masculinity, they will vary in the way they relate to other constructs. Similarly, emotionality and nurturing may both be facets of femininity, but they also will vary in the way the are related to other variables. In taking such a position, an atheoretical, empirical approach to the construction of MF instruments is rejected. Instead, an explicit theoretical model should be the starting point for instrument construction, and empirical results should be used to support, refute or revise the instrument and the theory upon which it is based.

Footnotes

1 -- Correlations between gender (1=male, 2=female) and the 11 areas of self-concept for the present study are: Mathematics (-.12); Verbal (.07); General School (.07); Physical Abilities (-.14); Physical Appearance (-.34); Opposite Sex Relations (-.06); Same Sex Relations (.29); Parent Relations (.01); Honesty/Trustworthiness (.25); Emotional Stability (-.06); General-Self (-.05). Correlations equal to or greater than 0.07 are statistically significant ($p < .05$, two-tailed).

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Table 1
Relations Among MF Scores and Background Variables For Male (m), Females (f) and the Total Sample (t)

MF Scores	Sample	MF Scores					
		(1)	(2)	(3)	(4)	(5)	(6)
1 Masculine Positive (M+)	m	(.67)					
	f	(.67)					
	t	(.67)					
2 Masculine Negative (M-)	m	.28*	(.78)				
	f	.51*	(.78)				
	t	.40*	(.78)				
3 Feminine Positive (F+)	m	.51*	-.04	(.73)			
	f	.35*	-.07	(.73)			
	t	.39*	-.09*	(.75)			
4 Feminine Negative (F-)	m	-.03	.32*	.12*	(.63)		
	f	-.21*	-.06	.24*	(.69)		
	t	-.12*	.12*	.19*	(.67)		
5 Masculine Total (M+) + (M-)	m	.76*	.84*	.27*	.21*	(.80)	
	f	.84*	.90*	.13*	-.15*	(.80)	
	t	.80*	.87*	.15*	.02	(.80)	
6 Feminine Total (F+) + (F-)	m	.34*	.19*	.77*	.73*	.31*	(.67)
	f	.06	-.08*	.76*	.81*	-.02	(.74)
	t	.18*	.02	.78*	.76*	.11*	(.73)
Demographic Scores							
Age/Grade Level	m	-.02	-.02	-.01	-.01	-.03	-.02
	f	.02	.03	.16*	.00	.03	.11*
	t	-.00	-.00	.07*	-.01	-.01	.04
Sex (1=Boys, 2=Girls)	m	---	---	---	---	---	---
	f	---	---	---	---	---	---
	t	-.10*	-.14*	.29*	.10*	-.15*	.26*
Single Sex Class (1=Coed classes, 2= single sex classes)	m	.07	-.01	.11*	-.03	.05	.06
	f	.01	-.01	.12*	.00	.00	.07
	t	.02	-.03	.15*	.00	.00	.10*
School[a]	m	-.04	-.11*	.05	-.03	-.08*	-.05
	f	.03	.03	-.01	.00	.01	-.01
	t	-.08*	-.06	.06	.06	-.09*	.08*

a -- Since there are only two schools, school is a dichotomous variable. The school scored "1" was formerly an all-boys school; it had only boys in grades 8 and 10, but the other grades are coeducational. The school scored "2" was formerly an all-girls school; it had only girls in grades 8 and 10 but other grades were coeducational.

Note: Coefficient alpha estimates of reliability for the MF scores appear in parentheses.

Table 2
Relations Among MF Scores and Multiple Self-concepts For Male (m), Females (f) and the Total Sample (t)

Self-concepts		MF Scores M+ r	M+ beta	M- r	M- beta	F+ r	F+ beta	F- r	F- beta	Mult R
Mathematics	m	.18*	.14*	-.05	-.08	.21*	.13*	-.02	.00	.243*
	f	.19*	.20*	.01	-.09	.14*	.08	-.07	-.05	.226*
	t	.20*	.21*	.00	-.08*	.13*	.05	-.06	-.03	.221*
Verbal	m	.31*	.29*	-.09	-.15*	.26*	.11*	-.11*	-.06	.373*
	f	.35*	.34*	.03	-.14*	.24*	.15*	-.15*	-.12*	.411*
	t	.31*	.30*	-.04	-.14*	.25*	.15*	-.12*	-.10*	.390*
General-School	m	.31*	.30*	-.10*	-.17*	.25*	.10	-.10*	-.05	.373*
	f	.36*	.40*	.09	-.12*	.13*	.00	-.16*	-.08	.386*
	t	.32*	.33*	-.02	-.14*	.21*	.09*	-.12*	-.08*	.371*
Physical Abilities	m	.29*	.30*	-.12*	-.16*	.21*	.07	-.20	-.15*	.387*
	f	.34*	.42*	.02	-.19*	.17*	.02	-.14*	-.07	.390*
	t	.33*	.38*	-.02	-.16*	.13*	-.01	-.18*	-.11*	.383*
Physical Appearance	m	.26*	.18*	.13*	.14*	.14*	.07	-.14*	-.19*	.320*
	f	.39*	.23*	.21*	.09	.22*	.19*	-.19*	-.19*	.435*
	t	.34*	.27*	.21*	.12*	.05	-.01	-.19*	-.17*	.385*
Opposite Sex Relations	m	.29*	.23*	.03	.06	.14*	.06	-.27*	-.29*	.394*
	f	.40*	.19*	.22*	.12*	.28*	.28*	-.22*	-.23*	.479*
	t	.34*	.23*	.12*	.08*	.17*	.14*	-.25*	-.26*	.417*
Same Sex Relations	m	.17*	.07	.04	.08	.16*	.14*	-.13*	-.17*	.243*
	f	.36*	.22*	.05	-.05	.31*	.30*	-.25*	-.28*	.488*
	t	.21*	.05	.00	.03	.29*	.31*	-.14*	-.20*	.361*
Parent Relations	m	.20*	.18*	-.24*	-.24*	.24*	.16*	-.19*	-.13*	.397*
	f	-.03	.03	-.27*	-.28*	.21*	.20*	-.01	-.07	.344*
	t	.09*	.13*	-.25*	-.28*	.22*	.16*	-.10*	-.08*	.353*
Honesty	m	.11*	.11*	-.45*	-.46*	.32*	.26*	-.17*	-.05	.560*
	f	-.01	.13*	-.37*	-.42*	.29*	.21*	.05	.01	.465*
	t	.03	.09*	-.43*	-.43*	.36*	.29*	-.04	-.03	.547*
Emotional Stability	m	.23*	.24*	-.24*	-.17*	.14*	.06	-.46*	-.40*	.542*
	f	.31*	.24*	-.04	-.18*	.10*	.13*	-.55*	-.54*	.623*
	t	.27*	.25*	-.13*	-.16*	.09*	.07*	-.51*	-.47*	.578*
General-Self	m	.45*	.40*	-.12*	-.17*	.38*	.20*	-.22*	-.18*	.559*
	f	.46*	.38*	.09	-.09	.40	.29*	-.14*	-.13*	.552*
	t	.46*	.42*	-.01	-.14*	.35*	.21*	-.19*	-.16*	.543*
Summary Statistics										
Mean Coefficient	m	.255	.222	-.110	-.120	.223	.124	-.183	-.152	.399
	f	.284	.253	.004	-.123	.226	.168	-.166	-.161	.436
	t	.264	.242	-.089	-.118	.205	.132	-.173	-.154	.414
Mean of Squared Coefficients	m	.073	.058	.032	.040	.055	.019	.045	.035	.170
	f	.105	.077	.029	.036	.059	.038	.049	.046	.200
	t	.083	.071	.030	.036	.051	.028	.045	.038	.181

Table 3
Relations Among A Priori Combinations of MF Scores and Multiple Self-concepts For Males (m), Females (f) and the Total Sample (t)

		Unweighted MF Scores							
		[a] Mtot	[b] Ftot	[c] Pos	[d] Neg	[e] Bipolar MF	[f] Bipolar PN	[g] Sum Of MF & PN	[h] Gen Andro
Mathematics	m	.08	.13*	.23*	-.03	-.04	.21*	.14*	.13*
	f	.10*	.04	.20*	-.05	.05	.20*	.16*	.14*
	t	.11*	.05	.20*	-.03	.05	.18*	.17*	.14*
Verbal	m	.11*	.11*	.32*	-.12*	.00	.34*	.28*	.11*
	f	.20*	.05	.36*	-.09	.11*	.35*	.31*	.18*
	t	.14*	.09*	.34*	-.11*	.04	.35*	.28*	.14*
General-School	m	.11*	.12*	.32*	-.12*	.00	.34*	.28*	.15*
	f	.24*	-.03	.30*	-.04	.20*	.28*	.33*	.18*
	t	.16*	.06	.32*	-.09*	.08*	.32*	.29*	.16*
Physical Abilities	m	.09	.02	.29*	-.19*	.06	.36*	.34*	.09
	f	.19*	.01	.31*	-.08	.13*	.31*	.29*	.15*
	t	.16*	-.03	.27*	-.13*	.14*	.30*	.33*	.13*
Physical Appearance	m	.23*	.00	.23*	.01	.20*	.18*	.28*	.14*
	f	.34*	.00	.37*	.02	.25*	.27*	.37*	.21*
	t	.32*	-.09	.22*	.03	.30*	.16*	.35*	.18*
Opposite Sex Relations	m	.18*	-.07	.24*	-.13*	.22*	.28*	.38*	.08
	f	.34*	.03	.41*	.01	.23*	.31*	.38*	.27*
	t	.26*	-.04	.30*	-.08*	.24*	.28*	.39*	.17*
Same Sex Relations	m	.13*	.02	.19*	-.05	.09	.19*	.22*	.10*
	f	.21*	.03	.41*	-.14*	.14*	.43*	.38*	.16*
	t	.11*	.10*	.30	-.09	.01	.31*	.23*	.11*
Parent Relations	m	-.05	.05	.26*	-.27*	-.07	.39*	.27*	.04
	f	-.19*	.13*	.12*	-.22*	-.22*	.26*	-.02	-.10*
	t	-.12*	.08*	.19*	-.24*	-.15*	.32*	.13*	-.02
Honesty	m	-.24*	.11*	.26*	-.39*	-.31*	.49*	.19*	-.01
	f	-.24*	.22*	.17*	-.24*	-.32*	.33*	-.05	-.10*
	t	-.27*	.21*	.24*	-.33*	-.36*	.44*	.04	-.06
Emotional Stability	m	-.03	-.20*	.22*	-.42*	.15*	.48*	.50	-.08
	f	.13*	-.31	.25*	-.41*	.30*	.52*	.56*	.03
	t	.06	-.27*	.22*	-.41*	.24*	.48*	.53*	-.02
General-Self	m	.18*	.13*	.49*	-.20*	.06	.51*	.47*	.23*
	f	.30*	.15*	.53*	-.03	.13*	.44*	.38*	.29*
	t	.24*	.11*	.49*	-.12*	.11*	.47*	.43*	.26*
Summary Statistics									
Mean of Coefficients	m	.072	.038	.277	-.174	.033	.343	.305	.089
	f	.147	.029	.312	-.115	.091	.336	.281	.128
	t	.106	.025	.281	-.145	.063	.328	.288	.108
Mean of Squared Coefficients	m	.021	.011	.083	.048	.021	.130	.104	.014
	f	.056	.017	.110	.029	.042	.121	.109	.032
	t	.038	.016	.086	.037	.036	.119	.101	.021

a -- Mtot = (M+) + (M-)
b -- Ftot = (F+) + (F-)
c -- Pos = (M+) + (F+)
d -- Neg = (M-) + (F-)
e -- Bipolar MF = Mtot - Ftot
f -- Bipolar PN = Pos - Neg
g -- Sum of MF & PN = Bipolar MF + Bipolar PN
h -- Gener Andro = (Mtot + Ftot) - | Mtot - Ftot | (see earlier description)

Table 5

Beta Weights For Three Multiple Regressions Described In Table 4

		Multiple Regressions Based On:						
		Mtot & Ftot		Pos & Neg		Bipolar PN, Mtot & Ftot		
		Mtot	Ftot	Pos	Neg	Bipolar PN	Mtot	Ftot
Mathematics	m	.04	.12*	.24*	-.07	.20*	.06	.10*
	f	.10*	.04	.22*	-.09*	.20*	.10*	.03
	t	.10*	.04	.21*	-.07*	.18*	.11*	.02
Verbal	m	.08	.09	.34*	-.16*	.34*	.11*	.05
	f	.20*	.05	.39*	-.17*	.35*	.19*	.04
	t	.13*	.08*	.37*	-.16*	.35*	.15*	.05
General-School	m	.08	.09*	.34*	-.16*	.34*	.11*	.05
	f	.24*	-.02	.33*	-.11*	.27*	.24*	-.03
	t	.15*	.05	.34*	-.14*	.32*	.17*	.02
Physical Abilities	m	.09*	.00	.32*	-.23*	.37*	.12*	-.05
	f	.19*	.01	.34*	-.15*	.30*	.19*	.00
	t	.16*	-.04	.29*	-.17*	.32*	.18*	-.07*
Physical Appearance	m	.26*	-.08	.23*	-.02	.20*	.28*	-.10*
	f	.34*	-.04	.38*	-.06	.27*	.33*	.00
	t	.33*	-.13*	.22*	-.01	.19*	.34*	-.10*
Opposite Sex Relations	m	.22*	-.14*	.26*	-.17*	.31*	.25*	-.18*
	f	.34*	.04	.43*	-.09*	.31*	.34*	.03
	t	.26*	-.07*	.32*	-.12*	.30*	.29*	-.10*
Same Sex Relations	m	.14*	-.02	.20*	-.07	.21*	.16*	-.04
	f	.21*	.03	.45*	-.23*	.43*	.21*	.01
	t	.10*	.10*	.32*	-.14*	.31*	.12*	.07*
Parent Relations	m	-.07	.07	.30*	-.30*	.38*	-.04	.03
	f	-.18*	.12*	.17*	-.26*	.43*	-.19*	.12*
	t	-.13*	.09*	.23*	-.28*	.31*	-.11*	.07*
Honesty	m	-.31*	.21*	.31*	-.43*	.46*	-.26*	.16*
	f	-.24*	.21*	.23*	-.29*	.32*	-.24*	.21*
	t	-.29*	.25*	.30*	-.38*	.41*	-.27*	.21*
Emotional Stability	m	.04	-.21*	.28*	-.46*	.51*	.09*	-.27*
	f	.13*	-.31*	.35*	-.49*	.53*	.12*	-.32*
	t	.09*	-.27*	.29*	-.45*	.51*	.12*	-.32*
General-Self	m	.16*	.08	.52*	-.26*	.52*	.20*	.02
	f	.30*	.15*	.56*	-.14*	.44*	.30*	.14*
	t	.24*	.09*	.51*	-.20*	.48*	.26*	.04
Summary Statistics								
Mean of Coefficients	m	.066	.019	.304	-.212	.349	.098	-.020
	f	.148	.025	.350	-.189	.350	.145	.021
	t	.104	.017	.309	-.193	.335	.124	-.010
Mean of Squared Coefficients	m	.026	.014	.099	.063	.134	.030	.015
	f	.056	.017	.134	.050	.131	.055	.017
	t	.039	.018	.102	.053	.122	.043	.017

* $p < .05$

Table 4

Multiple Correlations Relating Empirically Weighted Combinations of MF Scores to Multiple Self-concepts For Males (m), Females (f) and the Total Sample (t)

		Multiple Regressions Based On:					
		Mtot & Ftot	Pos & Neg	Bipolar MF & Bipolar PN	Bipolar PN, Mtot, & Ftot	Sum MF,[a] Dif MF	Bipolar PN, Sum MF, Dif MF
Mathematics	m	.14*	.24*	.21*	.24*	.14*	.24*
	f	.11*	.22*	.21*	.22*	.14*	.24*
	t	.11*	.21*	.19*	.22*	.14*	.22*
Verbal	m	.14*	.36*	.34*	.36*	.15*	.37*
	f	.20*	.40*	.37*	.41*	.19*	.39*
	t	.16*	.38*	.35*	.38*	.16*	.38*
General-School	m	.14*	.36*	.34*	.36*	.14*	.36*
	f	.24*	.32*	.34*	.36*	.18*	.33*
	t	.17*	.35*	.33*	.36*	.16*	.35*
Physical Abilities	m	.08	.37*	.37*	.38*	.09*	.36*
	f	.19*	.34*	.33*	.36*	.16*	.34*
	t	.17*	.32*	.35*	.36*	.13*	.32*
Physical Appearance	m	.25*	.23*	.29*	.32*	.16*	.24*
	f	.34*	.37*	.37*	.43*	.25*	.36*
	t	.34*	.22*	.36*	.3[illegible]*	.18*	.24*
Opposite Sex Relations	m	.23*	.29*	.38*	.38*	.08	.29*
	f	.34*	.42*	.39*	.46*	.28*	.42*
	t	.27*	.32*	.37*	.41*	.17*	.32*
Same Sex Relations	m	.13*	.20*	.22*	.24*	.10*	.22*
	f	.22*	.46*	.45*	.48*	.18*	.46*
	t	.14*	.33*	.31*	.34*	.15*	.34*
Parent Relations	m	.08*	.40*	.39*	.39*	.11*	.39*
	f	.22*	.28*	.35*	.34*	.10*	.29*
	t	.15*	.34*	.34*	.34*	.03*	.33*
Honesty	m	.32*	.50*	.55*	.55*	.18*	.51*
	f	.33*	.33*	.46*	.46*	.12*	.36*
	t	.36*	.44*	.54*	.54*	.06*	.45*
Emotional Stability	m	.20*	.50*	.52*	.54*	.16*	.50*
	f	.34*	.54*	.60*	.62*	.23*	.56*
	t	.28*	.50*	.56*	.58*	.06*	.45*
General-Self	m	.19*	.55*	.53*	.55*	.22*	.55*
	f	.33*	.55*	.46*	.55*	.23*	.56*
	t	.26*	.53*	.49*	.54*	.26*	.53*
Summary Statistics							
Mean of Coefficients	m	.173	.364	.376	.392	.139	.366
	f	.260	.385	.394	.426	.187	.392
	t	.219	.358	.381	.405	.136	.357
Mean of Squared Coefficients	m	.034	.145	.154	.165	.021	.146
	f	.073	.157	.164	.192	.038	.162
	t	.055	.138	.156	.175	,025	.135

* $p < .05$

a -- Sum MF is the sum of Mtot and Ftot, and Dif MF is the absolute difference between Mtot and Ftot. These are the two components used to define the generalized androgyny score (see Table 3 for definition of other scores).

Note: A series of multiple regressions were conducted in which various combinations of two or three MF scores, those listed at the top, were used to predict each of the 11 SDQ II scales. The multiple Rs resulting from each of these multiple regressions are listed in the table.

SELF DESCRIPTION QUESTIONNAIRE II

NAME_____ AGE_____ BOY_____ GIRL_____

SCHOOL_____ GRADE/YEAR_____ ENGLISH STREAM/LEVEL_____ MATHEMATICS STREAM/LEVEL_____

COUNTRY YOU WERE BORN IN_____ COUNTRY YOUR FATHER WAS BORN IN_____ COUNTRY YOUR MOTHER WAS BORN IN_____

THIS IS A CHANCE TO LOOK AT YOURSELF. IT IS NOT A TEST. THERE ARE NO RIGHT ANSWERS AND EVERYONE WILL HAVE DIFFERENT ANSWERS. BE SURE THAT YOUR ANSWERS SHOW HOW YOU FEEL ABOUT YOURSELF. PLEASE DO NOT TALK ABOUT YOUR ANSWERS WITH ANYONE ELSE. WE WILL KEEP YOUR ANSWERS PRIVATE AND NOT SHOW THEM TO ANYONE. THE PURPOSE OF THIS STUDY IS TO SEE HOW PEOPLE DESCRIBE THEMSELVES.

WHEN YOU ARE READY TO BEGIN, PLEASE READ EACH SENTENCE AND DECIDE YOUR ANSWER. (YOU MAY READ QUIETLY TO YOURSELF IF THEY ARE READ ALOUD TO YOU.) THERE ARE SIX POSSIBLE ANSWERS FOR EACH QUESTION -- "TRUE", "FALSE", AND FOUR ANSWERS IN BETWEEN. THERE ARE SIX BOXES NEXT TO EACH SENTENCE, ONE FOR EACH OF THE ANSWERS. THE ANSWERS ARE WRITTEN AT THE TOP OF THE BOXES. CHOOSE YOUR ANSWER TO A SENTENCE AND PUT A TICK (✓) IN THE BOX UNDER THE ANSWER YOU CHOOSE. DO NOT SAY YOUR ANSWER ALOUD OR TALK ABOUT IT WITH ANYONE ELSE.

BEFORE YOU START THERE ARE THREE EXAMPLES BELOW. I HAVE ALREADY ANSWERED TWO OF THE THREE SENTENCES TO SHOW YOU HOW TO DO IT. IN THE THIRD ONE YOU MUST CHOOSE YOUR OWN ANSWER AND PUT IN YOUR OWN TICK (✓).

	FALSE	MOSTLY FALSE	MORE FALSE THAN TRUE	MORE TRUE THAN FALSE	MOSTLY TRUE	TRUE
1. I LIKE TO READ COMIC BOOKS						✓

(I PUT A TICK IN THE BOX UNDER THE ANSWER "TRUE". THIS MEANS THAT I REALLY LIKE TO READ COMIC BOOKS. IF I DID NOT LIKE TO READ COMIC BOOKS VERY MUCH, I WOULD HAVE ANSWERED "FALSE" OR "MOSTLY FALSE".)

2. IN GENERAL, I AM NEAT & TIDY.			✓			

(I ANSWERED "MORE FALSE THAN TRUE" BECAUSE I AM DEFINITELY NOT VERY NEAT, BUT I AM NOT REALLY MESSY EITHER.)

3. I LIKE TO WATCH T.V.						

(FOR THIS SENTENCE YOU HAVE TO CHOOSE THE ANSWER THAT IS BEST FOR YOU. FIRST YOU MUST DECIDE IF THE SENTENCE IS "TRUE" OR "FALSE" FOR YOU, OR SOMEWHERE IN BETWEEN. IF YOU REALLY LIKE TO WATCH T.V. A LOT YOU WOULD ANSWER "TRUE" BY PUTTING A TICK IN THE LAST BOX. IF YOU HATE WATCHING T.V. YOU WOULD ANSWER "FALSE" BY PUTTING A TICK IN THE FIRST BOX. IF YOU DO NOT LIKE T.V. VERY MUCH, BUT YOU WATCH IT SOMETIMES YOU MIGHT DECIDE TO PUT A TICK IN THE BOX THAT SAYS "MOSTLY FALSE" OR THE BOX FOR "MORE FALSE THAN TRUE".

IF YOU WANT TO CHANGE AN ANSWER YOU HAVE MARKED YOU SHOULD CROSS OUT THE TICK AND PUT A NEW TICK IN ANOTHER BOX ON THE SAME LINE. FOR ALL THE SENTENCES BE SURE THAT YOUR TICK IS ON THE SAME LINE AS THE SENTENCE YOU ARE ANSWERING. YOU SHOULD HAVE ONE ANSWER AND ONLY ONE ANSWER FOR EACH SENTENCE. DO NOT LEAVE OUT ANY SENTENCES, EVEN IF YOU ARE NOT SURE WHICH BOX TO TICK.

IF YOU HAVE ANY QUESTIONS HOLD UP YOUR HAND. OTHERWISE TURN OVER THE PAGE AND BEGIN.

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	FALSE	MOSTLY FALSE	MORE FALSE THAN TRUE	MORE TRUE THAN FALSE	MOSTLY TRUE	TRUE
1. ENGLISH IS ONE OF MY BEST SUBJECTS.						
2. I HATE THINGS LIKE SPORT, GYM, AND DANCE.						
3. BOYS FIND ME BORING.						
4. PEOPLE CAN REALLY COUNT ON ME TO DO WHAT IS RIGHT.						
5. MY PARENTS UNDERSTAND ME.						
6. WHEN I DO A JOB I DO IT WELL.						
7. I LOOK FORWARD TO MATHEMATICS CLASSES.						
8. I FIND IT DIFFICULT TO MEET GIRLS I LIKE.						
9. I AM HAPPY MOST OF THE TIME.						
10. IF I WORK REALLY HARD I COULD BE ONE OF THE BEST STUDENTS IN MY SCHOOL YEAR.						
11. OTHER PEOPLE THINK I AM GOOD LOOKING.						
12. I HAVE A POOR VOCABULARY.						
13. I ENJOY THINGS LIKE SPORTS, GYM & DANCE						
14. I'M UNCOMFORTABLE BEING AFFECTIONATE WITH MEMBERS OF THE OPPOSITE SEX.						
15. I ALWAYS TELL THE TRUTH.						
16. MY PARENTS TREAT ME FAIRLY.						
17. SOMETIMES I THINK THAT I AM NO GOOD AT ALL.						
18. I HATE MATHEMATICS.						
19. GIRLS OFTEN MAKE FUN OF ME.						
20. I USUALLY LOOK ON THE GOOD SIDE OF THINGS.						
21. I AM STUPID IN MOST SCHOOL SUBJECTS.						
22. I HAVE A NICE LOOKING FACE.						
23. WORK IN ENGLISH CLASSES IS EASY FOR ME.						
24. I'M TERRIBLE AT EVERY SPORT I HAVE EVER TRIED.						
25. I AM POPULAR WITH BOYS.						
26. I SOMETIMES TAKE THINGS THAT BELONG TO OTHER PEOPLE.						
27. MY PARENTS REALLY LOVE ME A LOT.						
28. I CAN'T DO ANYTHING RIGHT.						
29. I DO BADLY IN TESTS OF MATHEMATICS.						
30. I AM POPULAR WITH GIRLS.						
31. I AM OFTEN DEPRESSED AND DOWN IN THE DUMPS.						
32. MOST SCHOOL SUBJECTS ARE JUST TOO HARD FOR ME.						
33. I AM GOOD LOOKING.						
34. I LOOK FORWARD TO ENGLISH CLASSES.						
35. I TRY TO GET OUT OF SPORTS & PHYSICAL EDUCATION CLASSES WHENEVER I CAN.						
36. MOST BOYS WANT ME TO BE THEIR FRIEND.						
37. I OFTEN TELL LIES.						
38. MY PARENTS PUNISH ME MORE SEVERELY THAN I DESERVE.						
39. I HATE MYSELF.						
40. I OFTEN NEED HELP IN MATHEMATICS.						
41. MOST GIRLS TRY TO AVOID ME.						
42. I AM A CALM PERSON.						
43. I LEARN THINGS QUICKLY IN MOST SCHOOL SUBJECTS.						
44. THERE ARE A LOT OF THINGS ABOUT THE WAY I LOOK THAT I WOULD LIKE TO CHANGE.						
45. I GET GOOD MARKS IN ENGLISH.						
46. I AM A SLOW RUNNER.						
47. I FIND IT DIFFICULT TO MEET BOYS I LIKE.						
48. HONESTY IS VERY IMPORTANT TO ME.						
49. IF I HAVE CHILDREN OF MY OWN, I WANT TO BRING THEM UP LIKE MY PARENTS RAISED ME.						
50. OVERALL, I AM NO GOOD.						
51. MATHEMATICS IS ONE OF MY BEST SUBJECTS.						
52. PEOPLE OF THE OPPOSITE SEX THAT I LIKE DON'T LIKE ME.						
53. I OFTEN FEEL CONFUSED AND MIXED UP.						
54. I ENJOY DOING WORK IN MOST SCHOOL SUBJECTS.						
55. I AM UGLY.						
56. I LEARNED TO READ EARLIER THAN MOST OTHERS.						
57. I'M GOOD AT THINGS LIKE SPORT, GYM & DANCE.						
58. I HAVE LOTS OF FRIENDS OF THE OPPOSITE SEX.						

	FALSE	MOSTLY FALSE	MORE FALSE THAN TRUE	MORE TRUE THAN FALSE	MOSTLY TRUE	TRUE
59. I SOMETIMES TELL LIES TO STAY OUT OF TROUBLE.						
60. I GET ALONG WELL WITH MY PARENTS.						
61. OVERALL, I'M A FAILURE.						
62. I NEVER WANT TO TAKE ANOTHER MATHEMATICS COURSE.						
63. I DO NOT GET ALONG VERY WELL WITH GIRLS.						
64. I WORRY ABOUT A LOT OF THINGS.						
65. I DO WELL IN TESTS IN MOST SCHOOL SUBJECTS.						
66. I HATE THE WAY I LOOK.						
67. I HATE READING.						
68. I AM AWKWARD AT THINGS LIKE SPORT, GYM, & DANCE.						
69. I GET A LOT OF ATTENTION FROM MEMBERS OF THE OPPOSITE SEX.						
70. CHEATING ON A TEST IS OK IF I DO NOT GET CAUGHT.						
71. I DO NOT LIKE MY PARENTS VERY MUCH.						
72. I AM A USEFUL PERSON TO HAVE AROUND.						
73. I GET GOOD MARKS IN MATHEMATICS.						
74. I MAKE FRIENDS EASILY WITH GIRLS.						
75. I AM A NERVOUS PERSON.						
76. I'M GOOD AT MOST SCHOOL SUBJECTS.						
77. MOST OF MY FRIENDS ARE BETTER LOOKING THAN I AM.						
78. I'M HOPELESS IN ENGLISH CLASSES.						
79. I'M BETTER THAN MOST OF MY FRIENDS AT THINGS LIKE SPORTS, GYM & DANCE.						
80. I'M NOT VERY POPULAR WITH MEMBERS OF THE OPPOSITE SEX.						
81. WHEN I MAKE A PROMISE I KEEP IT.						
82. I HAVE A LOT OF ARGUMENTS WITH MY PARENTS.						
83. I DON'T HAVE MUCH TO BE PROUD OF.						
84. I HAVE ALWAYS DONE WELL IN MATHEMATICS.						
85. I HAVE A LOT IN COMMON WITH THE GIRLS I KNOW.						
86. I OFTEN FEEL GUILTY.						
87. I'M NOT VERY INTERESTED IN ANY SCHOOL SUBJECTS.						
88. I'M BETTER LOOKING THAN MOST OF MY FRIENDS.						
89. I OFTEN HAVE TO READ THINGS SEVERAL TIMES BEFORE I REALLY UNDERSTAND THEM.						
90. I CAN RUN A LONG WAY WITHOUT STOPPING.						
91. MOST BOYS TRY TO AVOID ME.						
92. I SOMETIMES CHEAT.						
93. MY PARENTS ARE USUALLY UNHAPPY OR DISAPPOINTED WITH WHAT I DO.						
94. IN GENERAL I LIKE BEING THE WAY I AM.						
95. I HAVE TROUBLE UNDERSTANDING ANYTHING WITH MATHEMATICS IN IT.						
96. I HAVE FEWER FRIENDS OF THE SAME SEX THAN MOST PEOPLE.						
97. I AM USUALLY RELAXED.						
98. PEOPLE COME TO ME FOR HELP IN MOST SCHOOL SUBJECTS.						
99. NOBODY THINKS THAT I'M GOOD LOOKING.						
100. I LEARN THINGS QUICKLY IN ENGLISH CLASSES.						
101. I AM LAZY WHEN IT COMES TO SPORTS & HARD PHYSICAL EXERCISE.						
102. I HAVE A LOT IN COMMON WITH THE BOYS I KNOW.						
103. I AM HONEST.						
104. IT IS DIFFICULT FOR ME TO TALK TO MY PARENTS.						
105. I CAN DO THINGS AS WELL AS MOST OTHER PEOPLE.						
106. I ENJOY STUDYING FOR MATHEMATICS.						
107. GIRLS FIND ME BORING.						
108. I GET UPSET EASILY.						
109. I'M TOO STUPID AT SCHOOL TO GET INTO A UNIVERSITY.						
110. I HAVE A GOOD LOOKING BODY.						
111. I HAVE TROUBLE TRYING TO EXPRESS MYSELF WHEN I TRY TO WRITE SOMETHING.						
112. I MAKE FRIENDS EASILY WITH MEMBERS OF MY OWN SEX.						
113. I DO NOT GET ALONG VERY WELL WITH BOYS.						
114. IF I REALLY TRY I CAN DO ALMOST ANYTHING I WANT TO DO.						
115. I AM NOT VERY GOOD AT READING.						

	FALSE	MOSTLY FALSE	MORE FALSE THAN TRUE	MORE TRUE THAN FALSE	MOSTLY TRUE	TRUE
116. OVERALL, I HAVE A LOT TO BE PROUD OF.						
117. I AM CHEERFUL AND ON TOP OF THINGS MOST OF THE TIME.						
118. I ENJOY SPENDING TIME WITH MY FRIENDS OF THE SAME SEX.						
119. I FEEL THAT MY LIFE IS NOT VERY USEFUL.						
120. I HAVE TROUBLE WITH MOST SCHOOL SUBJECTS.						
121. I HAVE FEW FRIENDS OF OF THE SAME SEX AS MYSELF.						
122. I DO BADLY ON TESTS THAT NEED A LOT OF READING ABILITY.						
123. I AM A HAPPY PERSON.						
124. BOYS LIKE ME.						
125. MOST THINGS I DO I DO WELL.						
126. I HAVE GOOD FRIENDS WHO ARE MEMBERS OF MY OWN SEX.						
127. OVERALL, MOST THINGS I DO TURN OUT WELL.						
128. NOT MANY PEOPLE OF MY OWN SEX LIKE ME.						
129. MOST GIRLS WANT ME TO BE THEIR FRIEND.						
130. I DON'T GET UPSET VERY EASILY.						
131. NOTHING I DO EVER SEEMS TO WORK OUT RIGHT.						
132. BOYS OFTEN MAKE FUN OF ME.						
133. I GET BAD MARKS IN MOST SCHOOL SUBJECTS.						
134. I SPEND A LOT OF TIME WITH MEMBERS OF MY OWN SEX.						
135. I WORRY MORE THAN I NEED TO.						
136. I MAKE FRIENDS EASILY WITH BOYS.						
137. I AM GOOD AT EXPRESSING MYSELF.						
138. OTHER PEOPLE GET MORE UPSET ABOUT THINGS THAN I DO.						
139. MOST GIRLS LIKE ME.						
140. IT IS DIFFICULT TO MAKE FRIENDS WITH MEMBERS OF MY OWN SEX.						
141. I INTEND TO COMPLETE YEAR 12.						
142. IT'S IMPORTANT TO ME TO BE GOOD AT THINGS LIKE SPORTS, PHYS. ED., GYM, ETC.						
143. IT'S IMPORTANT TO ME TO BE GOOD LOOKING.						
144. IT'S IMPORTANT TO ME TO HAVE A LOT OF FRIENDS OF MY OWN SEX.						
145. IT'S IMPORTANT TO ME TO BE POPULAR WITH MEMBERS OF THE OPPOSITE SEX.						
146. IT'S IMPORTANT TO ME TO DO WELL IN MOST SCHOOL SUBJECTS.						
147. IT'S IMPORTANT TO ME TO DO WELL IN MATHEMATICS CLASSES.						
148. IT'S IMPORTANT TO ME TO DO WELL IN ENGLISH CLASSES.						
149. I INTEND TO GO TO UNIVERSITY AFTER I LEAVE SCHOOL.						
150. IT'S MORE IMPORTANT TO ME TO BE POPULAR WITH SAME-SEX FRIENDS THAN OPPOSITE-SEX FRIENDS.						

NOW WE WANT YOU TO DO A DIFFERENT TASK. Below is a list of personality charactertistics. Please use these characteristics to describe yourself. Indicate on a scale from 1 to 7 how true of you these various characteristics are. Please do not leave any blanks. As an example consider the characteristic HAPPY. Your answer would be:

1 if it is NEVER OR ALMOST NEVER TRUE that you are happy.
2 if it is USUALLY NOT TRUE that you are happy.
3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are happy.
4 if it is OCASSIONALLY TRUE that you are happy
5 if it is OFTEN TRUE that you are happy.
6 if it is USUALLY TRUE that you are happy.
7 if it is ALWAYS OR ALMOST ALWAYS TRUE that you are happy.

Thus, if you feel it is SOMETIMES BUT INFREQUENTLY TRUE that you are happy, you should write a "3" next to it: 3 HAPPY

1 NEVER OR ALMOST NEVER TRUE	2 USUALLY NOT TRUE	3 SOMETIMES BUT INFREQUENTLY TRUE	4 OCCASIONALLY TRUE	5 OFTEN	6 USUALLY TRUE	7 ALWAYS OR ALMOST ALWAYS TRUE
___FIRM	___NERVOUS	___MEAK	___LOYAL	___PLEASURE-SEEKING	___DETERMINED	
___DEPENDENT.	___AGGRESSIVE	___ASHFUL	___STRONG	___LOVES CHILDREN	___HASTY	
___PATIENT	___CONFIDENT	___MISCHIEVOUS	___CAREFREE	___NEEDS APPROVAL	___BRAVE	
___TENSE	___COMPETITIVE	___ESPONSIBLE	___ABSENT-MINDED	___SENSITIVE TO THE NEEDS OF OTHERS	___LOUD	
___BOSSY	___CASUAL	___EMOTIONAL	___RUDE	___SELF-SUFFICIENT	___LIVELY	
___NOISY	___TIMID	___RESOURCEFUL	___SEES SELF RUNNING SHOW	___SELF-CRITICAL	___CRIES EASILY	
___RASH	___LOGICAL	___SHY	___OUTSPOKEN	___CLEAR-THINKING	___INEFFICIENT	
___SHOW-OFF	___GRATEFUL	___CHILDLIKE	___WORRYING	___SKILLED IN BUSINESS	___HELPFUL	
___INTERESTING	___SARCASTIC	___ANXIOUS	___GENTLE	___FEELS SUPERIOR	___FLASHY	
___APPRECIATIVE	___FORCEFUL	___BOASTFUL	___SILLY	___DEVOTES SELF TO OTHERS	___WIDE INTERESTS	

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